

33. ALGAE OF SIMLA

During a botanical excursion to north India, the author collected a few algae from Simla on 5 and 6 November, 1966. Simla is situated at 31°6'N., 77° 10'E. The altitude ranges from 2200 to 2450 metres. January is the coldest month with a mean temperature of 5°C and the mean temperature of June, the warmest month, is 20°C. The average rainfall for the whole year is 180 cm. The period of greatest rainfall is from June to October.

These algae have been collected from Simla, on way to the Glen, and from Mushobra, a place 10 km. away from Simla. Algae could be collected from a few places only as most of the collection spots like cata-racts, dripping rocks, road side pools and puddles were dry. There was only one pond with an area of 15 sq. m. at Mushobra. This pond yielded 54 taxa belonging to 20 genera.

In this paper 78 taxa belonging to Chlorophyceae, Charophyceae, Xanthophyceae, Euglenophyceae and Cyanophyceae are recorded.

CHLOROPHYCEAE

1. *Pandorina morum* (Muell.) Bory.
Rare. In a pond, Mushobra.
2. *Gloeocystis gigas* (Kuetz.) Lagerheim
In a pond, Mushobra.
3. *Pediastrum tetras* (Ehrenberg) Ralfs v. *tetraodon* (Corda) Rabenhorst
Very rare. In a pond, Mushobra.
4. *Coelastrum microporum* Naegeli
Common. In a pond, Mushobra.
5. *Trochiscia zachariasii* Lemm.
Common. In a pond, Mushobra.
6. *Scenedesmus bijuga* (Turp.) Lagerh. v. *alternans* (Reinsch) Hansgirg
Common. In a pond, Mushobra.
7. *S. brasiliensis* Bohlin.
Rare. In a pond, Mushobra.
8. *S. denticulatus* Lagerheim
Planktonic in a reservoir, Simla.

9. **S. dimorphus** (Turp.) Kuetzing
In a pond, Mushobra.
10. **Ankistrodesmus falcatus** (Corda) Ralfs
Rare. In a pond, Mushobra.
11. **Selenastrum westii** G. M. Smith
Rare. In a pond, Mushobra.
12. **Botryococcus sudeticus** Lemmermann
In a reservoir, Simla.
13. **Stigeoclonium tenue** (Agardh) Kuetzing
Attached to water pipes in a reservoir, Simla.
14. **Protococcus viridis** C. A. Agardh
On moist earthen walls of houses, Mushobra.
15. **Cladophora glomerata** (L.) Kuetz.
Attached to sticks, stones in a reservoir, Simla.
16. **Oedogonium nanum** Wittock. Tiffany
Epiphytic on *Cladophora* filaments in a water reservoir, Simla.
Only female filaments were observed.
17. **Cylindrocystis brebissonii** Menegh.
In a pool, Glen, Simla.
18. **Pleurotaenium ehrenbergii** (Bréb.) De Bery
Rare. In a pond, Mushobra.
19. **Closterium acerosum** (Schrank) Ehrenberg
In a pond, Mushobra.
20. **C. dinae** Ehrenberg.
In a pond, Mushobra.
21. **C. dinae** Ehrenberg *v.* **arcuatum** (Bréb.) Rabenhorst
In a pond, Mushobra.
22. **C. idiosporum** W. et G. S. West
In a pond, Mushobra.
23. **C. kuetzingii** Bréb.
In a pond, Mushobra.
24. **C. leibleinii** Kuetzing
In a pond, Mushobra.
Cells much shorter (up to 100 μ long).

25. **C. rectimarginatum** Scott et Prescott v. **maius** Kamat
In a pond, Mushobra.
26. **C. venus** (Kuetzing) Brébisson
In a pond, Mushobra.
27. **Cosmarium abbreviatum** Racib. f. **pygmaeum** Missik.
In a pond, Mushobra.
28. **C. laeve** Rabenhorst
In a pond, Mushobra.
29. **C. meneghinii** Bréb.
In a pond, Mushobra.
30. **C. punctulatum** Bréb. v. **rotundatum** Klebs
Submerged mucilaginous masses in a reservoir, Glen, Simla.
31. **C. regnellii** Wille
Abundant. In a pond, Mushobra.
32. **C. regnesi** Reinsch
In a pond, Mushobra.
33. **C. subretusiforme** W. et. G. S. West v. **maiums** Kamat
In a pond, Mushobra.
34. **C. succisum** West v. **hyalinum** Skvortzow
In a pond, Mushobra.
35. **C. undulatum** Corda v. **minutum** Wittrock
In a pond, Mushobra.
36. **Euastrum verrucosum** Ehrenberg
In a pond, Mushobra.
37. **Staurastrum dickiei** Ralfs
In a pond, Mushobra.
38. **S. muticum** Brébisson
In a pond, Mushobra.
39. **S. orbiculare** Ralfs v. **depressum** Roy et Bisset
Common. In a pond, Mushobra.
40. **Sphaerosma granulatum** Roy et Bisset
In a pond, Mushobra.

CHAROPHYCEAE

41. **Chara corallina** Willd.
Abundant in a pond, Mushobra. Plants comparatively far more delicate than those found in Maharashtra State. Mosquito larvae were present in abundance very close to these plants.

XANTHOPHYCEAE

42. **Tribonema bombycinum** (C. A. Agardh) Derbes et Solier
In a streamlet, Simla. On dripping rocks, Mushobra.
43. **Vaucheria sessilis** (Vauch.) De Condolle
Common. On shaded moist soil, slopes, Simla, Mushobra.

EUGLENOPHYCEAE

44. **Euglena oxyuris** Schmarda
Common. In a pond, Mushobra.
45. **E. sanguinea** Ehrenberg
In a pond, Mushobra.
46. **E. spirogyra** Ehrenberg v. **abrupte-acuminata** Lemmermann
In a pond, Mushobra.
47. **Phacus curvicauda** Swirenko
In a pond, Mushobra.
48. **P. orbicularis** Hübner
In a reservoir, Glen, Simla.
49. **P. polytrophos** Pochmann
In a pond, Mushobra.
50. **P. triqueter** (E.) Duj.
In a pond, Mushobra.
51. **P. unguis** Pochmann
In a pond, Mushobra.
52. **Trachelomonas cylindrica** E. sec. Playfair
In a puddle, Glen, Simla,

53. **T. dybowskii** Drez.
In a pond, Mushobra.
54. **T. hispida** (Perty) Stein emend. Deflandre
In a pond, Mushobra.
55. **T. subverrucosa** Deflandre
In a pond, Mushobra.
56. **T. volvocina** Ehrenberg
In a pond, Mushobra.

CYANOPHYCEAE

57. **Aphanothece castagnei** (Bréb.) Rabenhorst
On moist soil, on bark of trees, Simla, Mushobra.
58. **A. microscopica** Naegeli
On dripping rocks, Mushobra.
59. **Merismopedia elegans** A. Br.
In a pond, Mushobra.
60. **M. punctata** Meyem
In a pond, Mushobra.
61. **Oscillatoria corakiana** Playfair v. **nongranulata** Kamat
In a pond, Mushobra.
62. **O. formosa** Bory ex Gomont
In gutters, Glen, Simla.
63. **O. mougeotii** Kuetzing
Forming a dark blue-green layer on submerged soil in a pond,
Mushobra.
64. **O. prolifica** (Grev.) Gomont
In a pond, Mushobra.
65. **O. proteus** Skuja
On moist soil near the pond, Mushobra.
66. **O. pseudogeminata** G. Schmid
In a pond, Mushobra. In the mucilaginous masses of other
algae, Simla.

67. **O. quadripunctulata** Brühl et Biswas v. **unigranulata** R. N. Singh
f. ahmedabadensis Kamat
 In a pond, Mushobra.
68. **O. rubescens** DC. ex Gomont
 Common in gutters, Simla.
 On wet bricks, Mushobra.
69. **O. tenuis** Ag.
 Common. In a pond, Mushobra.
70. **Lyngbya allorgei** Frey
 Adhering to submerged iron pipes, Glen, Simla. On moist
 soil, Simla.
 The filaments are slightly broader (up to 4.35μ broad) than those
 in the type.
71. **L. antarctica** Gain
 Cement gutters, Simla.
72. **L. lachneri** (Zimmermann) Geitler
 Adhering to submerged iron pipes, Glen, Simla.
 In cement gutters, Simla.
73. **L. martensiana** Meneghini
 Adhering to submerged iron pipes, Simla.
74. **L. nordgardhii** Wille
 Embedded in mucilaginous masses of *Aphanothece*, Simla.
75. **Microcoleus vaginatus** (Vauch.) Gomont v. **vaucheri** (Kuetz.)
 Gomont
 On moist soil, Simla.
76. **Schizothrix pallida** (Naegeli) Geitler
 Thallus woolly, reddish brown; filaments curved, branched,
 $22-30-50 \mu$ broad, sheath yellowish brown to reddish
 brown, distinctly stratified, at the ends pointed, outside even,
 with 1-4 trichomes, coloured violet by chlor-zinc-iodide; trichomes
 not constricted at the cross-walls, blue-green, not tapering at the
 ends, cells $9-9.6 \mu$ broad, $7-8 \mu$ long, end cell bluntly conical.
 On dripping rocks, Mushobra.

77. **Cylindrospermum musicola** Kuetzing ex Born. et Flah.
Blue-green mucilaginous masses on slopes, Glen, Simla.
78. **C. stagnale** (Kuetz.) Born. et Flah.
On moist soil, Glen, Simla.

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